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## **APPENDIX E**

### **Worksheet of NIA**

#### **Number Calculations**

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## **APPENDIX E**

### **NON-INDIAN ALLOCATION WORKSHEET**

The calculation of non-Indian agriculture (NIA) allocations was the subject of many comments received through the scoping process. The comments focused primarily on the process used to convert the percentage of NIA allocated to individual entities into volumes in the definition of alternatives identified for evaluation in this EIS. It should be noted that with the exception of the proposed action, it is anticipated that NIA contracts and subcontracts will continue to be based on the allocation of a percentage of NIA priority water available. The conversion of percentage allocations to volumes is for the purpose of providing consistent definition of alternatives in the scoping process only.

The attached worksheet documents the process used to convert NIA percentage allocations to volumes for individual entities for the purposes of this EIS. The steps below outline the process used in the calculations shown on the attached worksheet.

1. **Determine normal year deliveries** - The normal year supply of 1,490,000 af per year, is based on a normal supply from the Colorado River for the purposes of this EIS. The normal year delivery is the normal year supply less estimated losses of 75,000 af per year. The normal year delivery is 1,415,000 af per year.
2. **Calculate the Initial NIA Pool** - The NIA supply is the CAP water available after the Indian and M&I uses are delivered. The NIA supply is defined as normal year delivery minus Indian and M&I uses. Assuming full use of the 1983 contracts in the 1983 ROD, the NIA supply is 466,394 af per year.
3. **Determine NIA Pool after 1984 Ak Chin Settlement Act and 1988 SRPMIC Settlement Act** - The addition of Colorado River water supplies in the CAP system reduced the NIA supply. The NIA supply was reduced to 397,949 af per year based on normal year deliveries minus full use of Indian and M&I allocations and the addition of Colorado River water into the system.
4. **Convert the NIA percentage allocation to volumes per entity based on the 1988 starting line** - Using the NIA supply calculated in step 3, multiply the allocation percentage per entity by the 1988 NIA supply of 397,949 af per year. The results of the conversion are shown in the attached worksheet. In addition, the 1992 ROD provided additional percentages of NIA supply to each entity. Conversion of the 1992 reallocation are shown in the attached worksheet.
5. **Calculate the NIA supply at its current level** - The current NIA supply has been reduced by the relinquishment and conversion of HVID water to Indian priority for federal use, and for the sake of this analysis, the definition of RWCD's assignment as part of SRPMIC and relinquishment to the Secretary of 23,600 af per year. These actions reduce the NIA supply available for NIA use to 341,098 af per year.

6. **Determine the water reserved for the Cities pursuant to the HIDD Agreement** – In the HIDD Agreement, several Plan 6 Cities received the assignment of NIA water from HIDD as well as an option to contract for 5% of the NIA supply. The assignment and option combine for approximately 11.97% of the NIA supply. The agreement includes a formula for calculation of the NIA supply that reflects the inclusion of a portion of the HVID water as Indian water and Wellton-Mohawk IDD (WMIDD) water as M&I water, while the Yuma Mesa Division (YMD) water reduces the normal year delivery by 47,500 af per year. In addition, the formula includes provisions for providing conversion of the CAP water associated with up to 7,077 acres of land in HIDD to M&I uses. The formula is based on  $11.97\% \times \text{NIA}$ , where  $\text{NIA} = 1,415,000 - 47,500 \text{ YMD} - (309,828 + 13,933 \text{ HVID}) - (638,823 + 22,000 \text{ WMIDD})$ . The resulting volume of NIA water reserved for the Cities is 45,835 af per year for the purposes of this EIS.
7. **Calculate the NIA uncontracted supply** – The NIA uncontracted supply is the residual of the currently available NIA supply less the water reserved for the Cities, 2-Party Agreements, relinquished water (exclusive of RWCD which was removed from the available NIA supply), and declined water. The uncontracted supply is 71,815 af per year and includes supplies allocated in the 1992 ROD for entities that have not relinquished or declined their allocations under the 1992 ROD.

STEP 1 - Determine Normal Year Delivery as Normal Year Supply - losses

	VOLUME
NORMAL YEAR SUPPLY	1,490,000
LOSSES	-75,000
DELIVERY	1,415,000

STEP 2 - Calculate Initial NIA Pool as Delivery - (M&I + Indian)

DELIVERY	1,415,000
INDIAN	-309,828
M&I	-638,823
NIA (residual after Ind+M&I)	466,349

STEP 3 - Determine NIA Pool reduction as 83 NIA - (YMD + WMID)

1983 ROD ALLOCATION	466,349	
Yuma Mesa Div (50k w/o losses)	-47,500	(Ak-Chin Settlement 1984)
WMID/SRPMIC (22k w/o losses)	-20,900	(SRPMIC Settlement 1988)
<b>1988 NIA POOL</b>	<b>397,949</b>	<i>1988 STARTING LINE</i>

STEP 4 - Convert NIA percentage allocations to volumes based on 1988 STARTING LINE  
as 1988 NIA POOL \* Allocation Percentage

*ORIGINAL IDS*

ENTITY	Allocation % 1983	VOLUME	Allocation % 1992	VOLUME	CURRENT STATUS
CAIDD	18.01	71,671	22.74	90,494	To Cities
CHCID	0.28	1,114	0.3	1,194	
HVID	7.67	30,523	8.73	34,741	
HID	6.36	25,310	6.97	27,737	
MSIDD	20.48	81,500	22.75	90,533	Relinquished (1983%)
NMIDD	4.34	17,271	7.23	28,772	
QCID	4.83	19,221	4.83	19,221	Relinquished Federal Uses
RWCD	5.98	23,797	6.33	25,190	
STID	0.77	3,064	0.77	3,064	
TID	1.98	7,879	1.98	7,879	
TOTAL	70.7	281,350	82.63	328,825	

*DECLINED IDS*

ENTITY	Allocation % 1983	VOLUME	Allocation % 1992	VOLUME	CURRENT STATUS
FICO	1.39	5,531	1.64	6,526	Declined
SCIDD	4.09	16,276	6.84	27,220	
TOTAL	5.48	21,808	8.48	33,746	

*NEW ENTITIES*

ENTITY	Allocation % 1983	VOLUME	Allocation % 1992	VOLUME	CURRENT STATUS
ASLD LEASE - PP	-	-	0.54	2,149	Declined
ASLD LEASE - AGUIR	-	-	0.11	438	Declined
MVWCDD	-	-	3.17	12,615	Declined
RID	-	-	5.07	20,176	
TOTAL			8.89	35,378	
<b>NIA 1992 TOTAL</b>	<b>70.70</b>	<b>281,350</b>	<b>100.00</b>	<b>397,949</b>	

STEP 5 - Calculate Current NIA Pool at its current level

1988 STARTING LINE	397,949	
HVID (fixed)	-33,251	1990 FMIC Settlement
RWCD (fixed)	-23,600	1992 Agreement
<b>CURRENT NIA POOL</b>	<b>341,098</b>	

STEP 6 - Determine NIA water reserved for Cities pursuant to HIDD Agreement

HIDD (assigned to cities)	26,689	HIDD Agreement Calculation
5% NIA OPTIONS	19,146	HIDD Agreement Calculation
<b>NIA TO CITIES</b>	<b>45,835</b>	

STEP 7 - Calculate NIA Uncontracted Pool

CURRENT NIA POOL	341,098	
RESERVED FOR CITIES	-45,835	
2-Party Agreements	-184,449	1983%(CAIDD, CHCID, MSIDD, QCID, STID, TID)
Relinquished	-17,271	1983% NMIDD per bankruptcy
Declined	-21,728	
<b>UNCONTRACTED POOL</b>	<b>71,815</b>	